Abstract of the Disclosure

An abrasive pad capable of transmitting light for end point detection without reducing polishing efficiency in the polishing of a semiconductor wafer using an optical end-point detection device, method of manufacturing the abrasive pad, a metal mold for manufacturing the abrasive pad, and a method of polishing a semiconductor wafer.

This abrasive pad comprises an abrasive substrate and a light transmitting member. The light transmitting member comprises a crosslinked polymer such as crosslinked 1,2-polybutadiene and a water-soluble substance such as β-cyclodextrin dispersed in the crosslinked polymer. Since the light transmitting member and the abrasive substrate are fused together as an integrated unit, slurry does not leak to the rear side of the abrasive pad during the abrasive pad used. This manufacturing method comprises setting the light transmitting member in the metal mold for insert molding and crosslinking a matrix dispersion for forming the abrasive substrate in this mold. The polishing method using this abrasive pad employs an optical end-point detection device.